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CENTRAL INTELLIGENCE AGENCY

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Comments: 50X1-HUM

1. AMB is used throughout the report to indicate the East German Ministerium fuer Allgemeinen Maschinenbau (Ministry for General Machine Construction).

2. Paragraph 75 of the attached report is a list of East German electronics specialists. Listed below are full names of most of these specialists:
   Dr. Herbert Bauer
   Dipl. Ing. Heinz Dobesch
   Dr. Matthias Falter
   Professor Hans Fruehauf
   Professor Otto Hackenberg
   Dr. Ignatz Ladurner
   Werner Liebig
   Rudolf Manthey
   Dr. Gerhard Megla
   Dr. Peter Niedhardt
   Dipl. Ing. Eckhard Rehbock
   Professor Robert Rompe
   Dr. Erich Schuettloeffel
   Professor Josef Stanek
   Dipl. Ing. Bodo Wagner
   Dr. Heinrich Weber
   Ing. Erich Huettmann

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WORKING RELATIONSHIPS BETWEEN ORGANIZATIONS GRANTING DEVELOPMENT CONTRACTS IN ELECTRONICS

Letting Contracts

1. Before 4 June 1953 both ZAFT (Zentral-Amt fuer Forschung und Technik) and BfW (Buero fuer Wirtschaftsfragen) independently let contracts for development work. BfW let Secret contracts and ZAFT unclassified ones. The contracts which were let by AMB (Allgemeiner Maschinenbau) had also in fact been approved by ZAFT.

2. In June 1953 this procedure was changed and BfW now feeds all contracts through ZAFT. (The name of BfW has been changed, but I do not know the new name.)

3. Previously the SAG Complex had also let contracts, but in January 1954 it was broken up, and the various industries were put under the several ministries. This SAG group had consisted of 33 industries, of which the largest, SAG Kabel, was transferred to AMB. AMB administers the RFT complex as well as the HF Werke, Sachsenwerk Radeberg, and other lesser electronics industries. In the past, all SAG projects originated in Moscow, and [redacted] these were the only projects which originated in Moscow. [redacted] not know whether Moscow will continue to originate projects or not. 50X1-HUM

4. The former SAG plants are much better equipped than other electrical and electronic plants. Therefore [redacted] a battle for equipment now that SAG plants are under the AMB. Other plants will want to have similar equipment. 50X1-HUM

Budgets

5. At the same time the BfW lost its power to let contracts in June 1953, it also lost its separate budget, and instead was given jurisdiction over the allocation of part of the funds of ZAFT. This move was deeply resented by BfW personnel. They claim that they now have no funds and are dependent on ZAFT. This is not quite correct, however, since they have complete control over that portion of ZAFT funds delegated to them. [redacted] who determines this division. ZAFT is administered by the State Planning Commission which is in turn responsible to the Council of Ministers; thus it would seem that the State Planning Commission administers the division of funds. 50X1-HUM

6. For 1954 ZAFT had 100 million east marks allocated for electronics development in addition to the funds it handles for BfW. [redacted] the size of the BfW fund. [redacted] ZAFT will also administer the former SAG funds now that this organization has been broken up. [redacted] estimate that the entire budget for the SAG program in 1953 was between 40 and 50 million east marks. The largest organization, SAG, Kabel, probably obtained about one half of this amount. 50X1-HUM 50X1-HUM

7. In order to determine which projects of the 1953 plan to eliminate, officials from ZAFT, AMB, and BfW visited the engineers who had made proposals. Usually the engineers who could talk fastest saved their projects. The present arrangement (see paragraphs 19-20) is an improvement over this method, since technical persons consider each project and make most of the financial adjustment necessary. The advantage can be realized when it is remembered that with the exception of Dr. LANGE (who according to Dr. VINZELBERG is a capable scientist) no member of ZAFT, AMB, or BfW is capable of doing the small amount of technical work needed in their positions. None of these organizations are capable of originating a technical idea. (HV Funk on the other hand did have some people capable of originating projects and did contribute to project development.)

Scientific Advisory Committee of BfW

8. Over a year ago BfW created a scientific advisory committe consisting of PRUEHAUF, (leader), VINZELBERG, ULRICH, LANGE, MEGLA and others [redacted] The operation of the group was secret. It last met in the spring of 1953 and is now defunct. It died about the same time that BfW lost its independent fund and changed its name. The name of BfW was a cover name. In reality, it is a part of the Ministry of the Interior and is connected with the Security Service. All of their movements are clouded with secrecy, but [redacted] it is essentially the organization that assigns the development contracts for the military of the East German Government. 50X1-HUM 50X1-HUM

Funkwerk Koepenick

9. Before June 1953 (and of course now) RFT Funkwerk Koepenick received its development contracts primarily from ZAFT. During the past year orders were also received from SAG, but none from BfW, although other electronic plants did.

10. Two SED members, CHRAPEK and another [redacted] represented RFT Koepenick at ZAFT. Koepenick is represented at BfW through the Ministry of Interior security men who are placed in each department. These men are SED members and make regular reports to the Ministry on the progress and efficiency of the plant and do the paper work of preparing project proposals. Their reports go to ZAFT as well as to BfW. The representative in my department was PAKUSA. A man by the name of SCHAEFFER is the head of this SED group at Koepenick. The group consists of approximately eight men. 50X1-HUM

Subletting of SAG Contracts

11. The SAG combine, which in previous years obtained all Moscow contracts for electronic apparatus, found it necessary to sub-contract some of their work. The SAG contracts were always in great demand since funds were more easily obtained and priority for materials would be forthcoming.

12. RFT Koepenick had some of these contracts in 1953, [redacted] the following: 50X1-HUM

a. Calibrating Voltage Divider (a cover name) for a calibration receiver to calibrate signal generators from 1-300 meters with a voltage accuracy of 1 per cent up to .1 volt output. The project was conducted in the TEK department.

b. An impulse equipment for geological parties consisting of ten portable boxes about 1 x 1 x 1/2 meters. The project was carried out in the TEM department.

c. Oscillogram Analyzer for the photoelectric analysis of traces on paper was conducted in the TEM department.

d. Echolot to measure shallow depths of 1 to 20 meters with an accuracy of ± 10 cm. was carried out in the TEM department.

e. Level indicator for large oil tanks with an alarm when the tank is empty was constructed in the TEM department.

13. There were other projects, [redacted] 50X1-HUM Koepenick had about 4 million east marks worth of these contracts last year and hopes to retain a similar number this year. It is not yet clear how these contracts will be handled.

How a Contract Develops

14. A development contract evolves in the following way. An engineer, his department chief, and/or his plant manager make a proposal to AMB. Such proposals, which must indicate the probable customer, are requested in September and pass through the plant's working committee group. For example, on the Kollisionschutz-geraet proposal the Main Administration for Shipbuilding, Seepolizei, and Fishing Combine were listed as probable customers. These organizations are contacted by ZAFT and, if a sufficient number of them are interested, the contract is let. In this particular case, all were interested and stated their needs. [redacted] never 50X1-HUM known of ZAFT, AMB or BfW coming to an engineer, a department or a plant manager with a suggestion to submit a proposal. SAG might be listed as a probable customer, in which case the interest of the USSR was indicated. However, often the customer, which may be another plant, informally suggests its needs to personnel of a plant that might be expected to build an item such as he requires. The SMA (Soviet Military Administration) has even done this. However, even in the case of the SMA, a proposal must be submitted to AMB and ZAFT by the plant, and the

papers go through the usual routine before acceptance. This system puts an average of a one year lag on all projects. Often a project must lie idle during the year that a sub-project is going through the paper work. The nonavailability of funds or plant capacity might make the subproject impossible, so that many projects are obsolete before they are finished.

Interference of SMA and the Central Committee of the SED on Contracts

15. The SMA (Soviet Military Administration) monitors all operations of the DDR and [redacted] they are aware of all details of the organization and the operation of all the working groups. However they never interfered [redacted] no case in which they interfered with the DDR operations. It may be significant that although the Kollisionschutz-Geraet (see paragraphs 53 - 59) was a normal ZAFT project from all appearances, on the semi-annual inspections of the SMA more than ordinary interest was shown in the progress of this project. [redacted] the name of a single Russian in the DDR. The SMA men were rotated quite often and they never gave their names; in fact they never said much on any subject. 50X1-HUM 50X1-HUM 50X1-HUM

16. The Central Committee of the SED interfered at all levels. As a fictitious example: Someone would complain that not enough fish were on the market. A SED party man would be sent to the Baltic to investigate and the fisherman would say they could catch more fish if they had a Kollisionschutz-Geraete. The SED man would then come to RFT Koepenick and say, "Why haven't you got that apparatus finished?" Koepenick would reply, "We don't have enough money, or parts or help". Then the highest priority would suddenly be given to the Kollisionschutz-Geraete and confusion would result.

Heinrich Hertz Institute

17. The Heinrich Hertz Institute and Lindenberg Observatory are two of several organizations under the DDR Academy of Science. The Academy draws its funds from ZAFT, but does not enter into the Working Circle, Working Group organization, except for an occasional representative as an advisor in a particular working circle or group.

BfW'S INFLUENCE IN CONTRACT PROPOSALS

18. [redacted] BfW was influential in the final decisions on the letting of contracts. [redacted] various proposals which were eliminated in ZAFT were often reinstated in a slightly different form by BfW. 50X1-HUM

Budget Reduction in 1954

19. More proposals for 1954 were made than could be financed. A budget of 200 million east marks had to be reduced by ZAFT to 100 million east marks. This was done in the following way.

(a) The proposals were submitted to the working groups /see section 3 below/ for consideration. These groups reduced the budget by 50 million east marks.

(b) AMB and ZAFT further reduced this to 100 million. [redacted] how the reduction was distributed among various projects. It is a function of AMB to adjust the proposals to fit the budget; thus they probably did much of the cutting. 50X1-HUM

20. Some proposals, however, not recommended by the working groups, were allowed. (This was also true of proposals in 1953.) One proposal [redacted] was denied by AMB but was reinstated by ZAFT. In this particular case CHRAPEK, one of the two RFT Koepenick representatives in ZAFT, was a personal friend of the proposer, an engineer at Funkwerk in Leipsig. [redacted] this was the reason for the reversal. 50X1-HUM 50X1-HUM

Proposed Radar Projects for 1954 at RFT Koepenick

21. In late November BfW held a meeting at which RFT Koepenick was represented by SCHAEFFER. SCHAEFFER returned from this meeting with five proposals, verbally approved, for RFT Koepenick. These proposals, which were secret, were:

(a) Ground radar for air search and air control, with a range of approximately 150 km., and complete coverage at all angles from vertical to horizontal.

(b) Height finding radar, with a range of 100 km., with azimuth and range indicators.

(c) Stabilization platform for marine radar now being built at Funkwerk, Dresden, (this is a 12-15 cm. radar, probably using a triode oscillator.)

(d) An artificial horizon.

(e) Miniaturization of ships' electrical equipment, including telegraph, speedometer, Echolot and communications gear.

22. These proposals will be resubmitted to ZAFT through AMB and will undoubtedly be approved. This does not mean they will ever be finished. [redacted] calculation of the first one and decided that [redacted] would need: (a) a 2 megawatt 10 cm. impulse magnetron, (b) an antenna system 25 meters long and 3 meters wide, and (c) about 3 million east marks to cover the costs. [redacted] Koepenick has the facilities for such a project. However it is sure to be started, as well as the other four, since the funds are available. Koepenick received 9 million east marks of contracts from ZAFT for 1954 and their capacity is about 13 million east marks, so that unfilled capacity is available for these projects. 50X1-HUM 50X1-HUM

23. Two of these projects [redacted] being restated proposals of RFT Koepenick. They are: (a) the ground radar project and (b) the Echolot miniaturisation project. Koepenick had submitted the ground radar project originally as an unclassified Harbor Survey and Meteorological Apparatus project and [redacted] the name "Meteorologische Geraete" or "Meteorologische Messgeraete" will be used as a cover name for this military development. /This project should not be confused with the one mentioned in paragraph 77/. 50X1-HUM 50X1-HUM

24. RFT Koepenick asked that the BfW contracts be unclassified so that they could get consultant help on them. However, this request was refused by BfW.

25. [redacted] the Seepolizei and its parallel in the DDR military air arm (Luft-Polizei, for lack of a correct name) requested the BfW projects which were given to Koepenick. In trying to get data for the six projects that SCHAEFFER brought back from the BfW meeting, he [redacted] visited the Ministry of the Interior. There [redacted] were told to use "average" values for all calculations and that details would be provided later by WEGNER of the Seepolizei on the Echolot project and by someone in the Luft Polizei [redacted] on the radars for air control and height finding. [redacted] a Referent in the offices of the Interior Ministry [redacted] One of the Referent's assistants was named GIERSCHEWSKI, but he was not in a responsible position. [redacted] It may be significant that the BfW offices are in the same building with the DDR Hydrographic Service and occupy the quarters formerly used by the Seepolizei before they moved to Rostock. 50X1-HUM 50X1-HUM 50X1-HUM 50X1-HUM

Possible Resumption of Work at Aircraft and Electronic Development Factory after June Riots

26. During 1953, BfW contracts constituted about 75 per cent of the work of Funkwerk Leipzig. [redacted] that such contracts controlled 50 per cent of the work at Funkwerk Dresden. The BfW 50X1-HUM

also set up a plant in Saxony, [redacted] or some similar name, for aircraft development and development of associated electronic equipment. Work on this plant was stopped in June 1953. However, in the fall of 1953, perhaps November, the workers, including the electronic engineers, were called back, according to hearsay among the DDR electronic engineers. 50X1-HUM

DETAILED ORGANIZATION OF WORKING CIRCLES AND WORKING GROUPS

Formation of Working Circles and Working Groups

27. In June 1953, Prof. LANGE of ZAFT called a meeting of leaders in applied electronics to develop the skeleton of an organization to coordinate requests for development contracts. More precisely, the meeting was called to determine the fields in which coordination was required, what people could perform the coordination most effectively, and the working arrangement under which these people would function. Attendees at this meeting were SCHUETT-LOEPFEL from RFT Koepenick, LANGE from RFT Leipzig, FRUEHAUF from Technische Hochschule, Dresden, FALTER from Dralowid, MEGLA from Sachsenwerk Radeberg, and others unknown to me. It was decided that working circles (Arbeitskreise) would be formed and under these a number of working groups (Arbeitsgruppe). Leaders of the working circles, leaders of the working groups, and members of the working groups were named.

28. At the initial meeting a number of working circles were formed, including an Electronic Working Circle under the chairmanship of Prof. FRUEHAUF, a Tube Working Circle under the chairmanship of Dr. SCHILLER, and another [redacted] under the chairmanship of Dr. EDKHARDT, a physicist from the Institut fuer Festkoerperforschung in Berlin-Buch. Several other working parties were formed [redacted] The working groups were to consist of approximately ten members, one from each of the plants or institutes with an interest. The chairman of each group was to be a member of the particular working circle concerned. 50X1-HUM 50X1-HUM

29. The purpose of the working groups is to:

a. Decide which job should be done in which plant.

b. Decide which jobs could be consolidated into one job.

c. Decide which jobs were of most importance

d. Make a year-end analysis of expenditures.

e. Carry out a judgment on the quality of work accomplished.

f. Review the manner in which projects had been carried out and suggest better methods.

30. Many of the working groups objected to the requirement that they judge on such matters as the efficiency of carrying out a project, on the basis that they would not know how well a given plant or laboratory was prepared to carry out the project. Many also objected to any requirement that involved financial considerations.

31. In the Electronic Working Circle under Prof. FRUEHAUF were the following groups. [redacted] listed the respective chiefs: 50X1-HUM

a. Transmitter and Receiver Technology - chief, myself of RFT Koepenick

b. Broadcast Receivers - SCHEURENBRUECK or SCHEURENBERG of Stern Radio

c. Transmission Technique (over 30 mc/s) - MEGLA, Sachsenwerk Radeberg

d. Marine Communications and Navigation - LANGE of RFT Leipzig

e. Cables and Connectors - WEDEMEYER of KWO (Kabelwerk Oberspree)

f. Radio Interference Elimination (Funkentstoerung) - VAN BUEREN of Allgemeines Deutsches Nachrichten-Buero

g. Television Transmitters - REHBOCK (not certain) of HF Werke

h. Possibly one or two more working groups that I do not recall

32. In the Working Circle under Dr. ECKHARDT were:

a. Semi-conductors and Rectifiers - FALTER of Dralowid

b. Other groups unknown to me

33. In the Tube Working Circle under Dr. SCHILLER were:

a. Decimeter Tubes - LADURNA of HF Werke

b. Other groups unknown to me

34. In unknown Working Circles were the following Working Groups:

a. Construction of Components - Chief unknown to me

b. Contact Materials - Chief unknown to me

c. Plastics - Chief unknown to me

d. Chokes and Transformers - KREUZBERGER (?)

35. It is difficult [redacted] to say how many working groups were formed. However, at a general meeting of all working group and working circle members, some 200-250 persons attended. It should also be noted that the same man might be in several groups, as sometimes occurred. [redacted] 50X1-HUM

(a) Dr. FALTER's semi-conductors and detectors working group,
(b) Dr. LANGE's marine communication and navigation working group,
(c) Dr. MEGLA's "Uebertragungstechnik" working group and
(d) Dr. LADURNA's decimeter tubes working group. [redacted] 50X1-HUM

36. Similar working circles were created in technical fields other than electronics and physics. [redacted] not more than ten working circles were formed. FRUEHAUF has attended two or three meetings of these working circle chiefs. [redacted] Prof. LANGE of ZAFT acts as the chief of this group. [redacted] 50X1-HUM the names of any of the other working circle leaders. The first meeting was in September or October, and [redacted] that their primary mission was to allocate the available funds. All circle and group organizations are advisory only. The group of circle leaders had been promised a charter that would give them real power, but LANGE of ZAFT had never signed it. 50X1-HUM

37. A general meeting of all members of all working groups was held about 1 October 1953. At this meeting ZAFT announced that insufficient money existed for all projects approved and asked what should be done. Nothing could be done in such a large group of 200 or 250 people. The problem was referred to a meeting of working circle chairmen to be held later. The results of the latter meeting are unknown to me.

38. The Electronic Working Circle chief called a meeting of his working group leaders only once during 1953. The purpose of the meeting which took place in September was to coordinate the work of the working groups. The circle voted on general questions but passed the details to the groups. This meeting was held at ZAFT and was to determine where and how the working group would work. It was decided that the groups would meet at AMB and discuss 1954 contracts. At this meeting FRUEHAUF said that all members must help the AMB administration or nothing would be done. [redacted] FRUEHAUF would like to get back to his Technische Hochschule in Dresden. He was not very active as a circle chief, and [redacted] heard him speak of the lack of efficiency and poor organization of the AMB. In October he took a trip to the USSR for about three weeks and visited several plants, but [redacted] not talked with him since the trip. Several people went on the trip; a list was published in the DDR newspaper. 50X1-HUM 50X1-HUM 50X1-HUM

Transmitter and Receiver Group

39. All formal correspondence concerning my working group originated at ZAFT and was signed by CHRAPEK. The first formal meeting of [redacted] receiver working group was held at AMB during the week of September 16 - 25, 1953. [redacted] working group together for an informal "get-acquainted" session at Koepenick about two weeks earlier. The members were: Dr. LANGE, Funkwerk Leipzig; HASSE (?), Funkwerk Dresden; Dr. SCHLEGEL, Funkwerk Erfurt; PAULICK, PFZ (Post und Fernmelde-Zentrale) and also a member of HV Funk; HEINE, Funkwerk Koepenick; FUSSNEGGER, HV Funk--and perhaps one more [redacted] 50X1-HUM 50X1-HUM 50X1-HUM

40. All attended the Koepenick meeting except Dr. SCHLEGEL, who sent a representative, and all were present at the formal meeting at AMB. At the Koepenick meeting, we discussed two questions: (a) should the working group concentrate on small transmitters and receivers as well as large transmitters and receivers, and (b) should more members be added. [redacted] against both points since Koepenick is the only plant interested in large transmitters and receivers and no more industries that should have representation could be found. Informally, the members discussed their respective plant's production. At the meeting at AMB, [redacted] group's meeting was attended by three people from AMB, two from BfW, and three salesmen from the major plants, including LICHTHART from RFT Koepenick. Four others--one each from HV Funk, MPF (Ministerium fuer Post und Fernmeldewesen), the Zentral-Institut fuer Funktechnik, and ZAFT met with us. This same pattern was repeated in all other working groups of FRUEHAUF's working circle with which [redacted] all working group meetings were similarly attended. 50X1-HUM 50X1-HUM 50X1-HUM

41. At this formal meeting of [redacted] working group in the AMB offices 40 or 50 projects were considered. The AMB members wanted to cut the development cost of each project and eliminate as many projects as possible. Seventy-five to eighty per cent of the original projects were recommended by the working group. Three projects were dropped since the BfW men said that we need not discuss them in our meeting. The rejected projects involved receivers for 1 to 3 meters and 3 to 10 meters and a panorama receiver (details not recalled). [redacted] the BfW men knew that these projects were to be supported with funds set aside for them. A similar situation developed in the meeting of LANGE's group. The BfW representatives said an Adcock direction finder project should be disregarded since it would be discussed in another meeting. All attendees had to sign a statement of secrecy concerning the meeting's activities, which included a provision that they would not use the information for personal gain or to their plant's advantage. About 30 per cent of the funds requested were cut out. It was not within the scope of 50X1-HUM 50X1-HUM

this meeting to originate new projects. [redacted] working group had no more meetings before the end of 1953. ZAFT was expected to let contracts in January so that [redacted] which of these contracts were finally awarded. [redacted] ZAFT to notify the working groups of their decision but rather to notify the individual plants of their successful projects. 50X1-HUM 50X1-HUM

Proposed Projects for Transmitter and Receiver Working Group

42. The main projects considered by [redacted] working group were: 50X1-HUM

UKW Empfaenger. This is an FM-monitoring receiver built for Poland. Two hundred have been built and delivered. They were meant to be used as controlled listening equipment. Each unit was to feed two 25-watt amplifiers furnished by Poland, which in turn fed the loud-speakers of an entire village. The receiver had automatic mechanical tuning so that it would stay properly tuned for long periods unattended. [redacted] Poland and Hungary each bought one FM-UKW transmitter from the DDR. It is their custom to buy one and copy it. This project was developed in Koepenick and the equipment was produced in Zwoenitz. 50X1-HUM

Gross-Station Empfaenger. The equipment was a relay rack equipment about 6 feet by 6 feet by 30 inches with removable sections so that certain common units can be used for several types of receivers. With one arrangement, a very highly selective, quartz-stabilized, thermostatic temperature-controlled HF receiver for AM and telegraph reception can be assembled. With another section, frequency shift telegraphy can be received. Other sections convert the unit to a many channel single side band receiver. Still other units make it a Musa receiver with automatic lobe elevation adjustment for maximum signal strength. A Musa with single side band and AM with a second carrier can also be fabricated. This development is divided into many projects. A development unit of each type will be finished this year, and Urgent efforts are being made to place it on the market in response to foreign demand. Ten pieces are scheduled to be finished in 1954, but [redacted] only three can be built. The fact that ten had been specified by ZAFT is almost proof that outside orders had been received. The Soviets have shown interest through their SMA officer, and [redacted] they have placed orders. The SMA officer said that all Soviet Bloc countries were interested. Also the ADNB (Allgemeines Deutsches Nachrichten-Buero) and DDR Ministerium fuer Post und Fernmeldewesen (MPF) will be customers. /This project was, second to the Kollisionschutz-Geraet, the project about which source was most proud./ 50X1-HUM 50X1-HUM

Automatic Alarm Receiver. This is a receiver for shipboard use, as required by International Regulations, on the emergency frequency. The usual mechanical relays are being replaced with

electronic switches, the band width is being increased with steeper slopes, an automatic checker is being incorporated that will test the apparatus every seven minutes, a tape recorder was added to catch the message following the alarm, and miniaturization is taking place. Koepenick hopes this will become an export item.

Measuring Receiver. This is a SAG project for voltage measurements and the specifications call for 1 microvolt at 1 per cent accuracy. Such a specification is unreasonable, and will not be reached. Nevertheless, the receiver is being built. Two models will be built, one from 1-10 meters and the other from 10-300 meters.

The four channel single side band receiver. The four channel single side band (two on each side of the carrier) section of the Gross Station Empfaenger had been subcontracted to Funkwerk Leipzig but since they had not made good progress, it had been shifted to Sachsenwerk. Funkwerk Leipzig wanted the project returned. The dispute was still in progress when [redacted] the DDR. The section was a 100 ± 6 kilocycle intermediate frequency channel with demodulator. All the above five projects were in Department TEE of RFT Koepenick. 50X1-HUM

A 100 kilocycle mine communication set. This set using tracks or air lines for transmission with loop coupling for receiver and transmitter was under development at Funkwerk Dresden.

A 15-100 kilocycle receiver. This project was proposed by Funkwerk Dresden, but was rejected by the working group since Koepenick was already producing such an item.

Semi-Conductor and Rectifier Group

43. Dr. FALTER's working group did not operate in the same manner as [redacted] His group devoted more of its time at meetings, to discussion of its projects, and an exchange of development experiences. [redacted] this is a growing tendency in all working groups. This was also noticeable in Dr. MEGLA's and Dr. LANGE's working groups. My working group had so many projects to consider that not much exchange of information on techniques occured. The membership of Falter's working group was as follows: Dr. ECKHARDT - HF Werke, Dr. MEGLA (?) - Sachsenwerk Radeberg, Dr. LANGE - Funkwerk Leipzig, myself - Funkwerk Koepenick, and unknown representatives from Erfurt Tube Plant and Funkwerk Dresden. 50X1-HUM 50X1-HUM

Work on Germanium for High Frequency Detector Conducted by Dralowid

44. [redacted] one meeting of Dr. FALTER's working group around 1 December 1953. MANTHEY attended as my representative at the first two meetings held about 1 September and 15 October 1953. 50X1-HUM

MANTHEY reported that the progress of high frequency detector development was discussed at the first meeting. Dralowid was conducting this work at Treptow. Their big problems were germanium purification and contact pressure. Sample runs of silicon detectors had been made, and the other firms discussed their measurements on these trial detectors. Dralowid stated that they lacked adequate measuring equipment. MANTHEY reported that he expected better detectors to be developed soon.

45. At the second and third meetings the specific proposals for 1954 were discussed. Since this working group was not in FRUEHAUF's Working Circle (the Electronic Working Circle) it did not meet with AMB in September 1953 but discussed its projects without outside representation. FRUEHAUF's Working Circle involved by far the greater share of the allotted 100 million DM, perhaps 50 per cent of it, and closer supervision was maintained by AMB. In addition to its high frequency detector project, progress on Dralowid's project to construct carbonized resistors, water-cooled and with ten kilowatts dissipation for KW and UKW use as dummy antennas was discussed. Other projects discussed were semiconductor resistors for stabilization of vacuum tube filament voltages, thermistors for small power measurements, semi-conductors for low frequency low voltage resistors to be used for volume regulation in carrier frequency systems, and improvement of selenium rectifiers and copper oxide rectifiers.

46. FALTER's working group had about 15 to 20 projects to consider. The only reduction in projects that [redacted] came as the result of the recommendation that all germanium work at HF Werke be eliminated and that all DDR germanium work in the future be conducted at Dralowid. Shortage of germanium and money were reasons for this decision, in addition to the successes at Dralowid as compared to the poor results at HF Werke. In 1954 only Dralowid was to go on developing transistors, but [redacted] HF Werke will continue their efforts nevertheless. 50X1-HUM 50X1-HUM

47. All germanium must be imported, and the USSR refused to supply it. Attempts have been made to locate germanium-bearing rock in the Harz Mountains. The search was started in 1953 by the Ministry of Mines, but [redacted] no results. The Ministry of Mines did the work and was not particularly interested. It has been said that the tailings of the zinc mine in Magdeburg contained germanium, but separation was thought to be difficult. No project for such separation is known [redacted]. According to reports, only a few transistors were made in the DDR, perhaps less than ten, and these were made at Dralowid with poor results. [redacted] 50X1-HUM 50X1-HUM 50X1-HUM

Detector Production

48. Dralowid had perfected a UKW detector that would operate satisfactorily with 200 volts back voltage, according to Dr. FALTER.

Attempts were being made to develop silicon detectors that could operate on 30 volts back voltage. Dr. FALTER told [redacted] that the Institut fuer Festkoerperforschung was helping on this silicon project by the use of neutron bombardment. Successes are not known to me. 50X1-HUM

49. Previously HF Werk had made some high frequency detectors from silicon by evaporation techniques, but Dralowid is trying to build them from germanium crystals. The Dralowid detectors were better than those of the HF Werk. A total of 200 per month were made during 1953. Dralowid thought they could mass produce their detectors in 1954. Dralowid is using a crystal-growing technique, and claimed that their method of preparing the germanium solutions was better than had yet appeared in [redacted] literature. Details were not given, but they were very proud of their accomplishment. A purity of 10^{18} was claimed. It should be mentioned that Dralowid has already delivered a large number of germanium detectors for UKW using cut crystals. 50X1-HUM

Shortage of Selenium

50. The selenium problem is in part a purity problem. [redacted] Gross Raeschen, where these rectifier plates are made, in late November or early December 1953 with Dr. ECKHARDT. The actual assembly is done by Electro-Waerme at Soernewitz. Gross Raeschen procures only partly purified selenium from Mansfeld Huettenwerk and distills it. Selenium is in short supply. Its only source in the DDR is the slime from electrolytic copper produced by Electro-Waerme. Only 800 kilos of selenium are produced each month, and this supplies only 1/3 of that needed for rectifiers. Selenium can be imported from China, but it is of poor quality and possesses an impurity that poisons the rectifier action. Both chemical analysis and spectrographic analysis have been used to isolate the impurity, but without success. The Institut fuer Festkoerperforschung is now trying to solve the problem. Poland is said to have imported large quantities of selenium from China that they cannot use. China seems to have plenty of selenium. 50X1-HUM

Shortage of Copper

51. The copper rectifier problem is a purity problem. German copper is not pure enough. The DDR had large stocks of [redacted] copper, but it is nearly all gone and only small rectifiers are being built so as to conserve this supply. No power rectifiers are being constructed. The DDR copper is electrolytic, but it still contains too many impurities. Electro-Waerme makes all copper oxide rectifiers for the DDR. 50X1-HUM

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Marine Communications and Navigation Group

52. Dr. LANGE's working group of the Electronic Working Circle had three meetings. The first was to get acquainted and the second was in the chambers of the AMB during the week of September 16 - 25, 1953. The third was at Koepenick in December 1953 to discuss Koepenick projects. Other meetings are planned at Funkwerk Dresden and Funkwerk Leipzig in early 1954 to discuss the projects of these firms. The membership was: Dr. LANGE - Funkwerk Leipzig; an unknown representative from Funkwerk Dresden, Dr. MEGLA - Sachsenwerk Radeberg; myself - Funkwerk Koepanick; ? - HV Funk, ? - Funkwerk Erfurt; and ? - HF Werk.

Radar Projects

53. About 25 projects were considered by this working group. One radar project, the Kollisionschutz - Geraet, is practically finished. A laboratory unit has been completed, but developmental work continues on the detector and T-R tube. The detector head was not sufficiently sensitive. The crystal was not good enough, and the klystron noise level was too high. Nevertheless, the development could be considered successful. The T-R tube deionized too slowly, making operation poor under 150 meters of range. The project is 50 per cent ready for its pilot run (null series). Five units will probably be finished in 1954, with perhaps a total of ten produced in the pilot stage. Mass production will probably start early in 1955, with 150 units to be built. Of these, the Fishing Combine will take the greater part.

54. Only laboratory magnetrons and klystrons have been produced by HF Werk as yet. The SMA has not yet allowed mass production, but mass production can start as soon as permission is given. HF Werk also lacks measuring equipment needed for mass production. Koepenick's measuring equipment can be copied, but Koepenick will need theirs to run their production. This entire production of 150 units is planned for Koepenick.

55. Specifications of Kollisionschutz radar are as follows:

Frequency: 3 cm.	Pulse width: 0.5 mocroseconds
Range: 30 - 40 nautical miles	Pulse rise time: 0.05 microseconds
Resolution: 75 meters	Receiver bandwidth: 3 megacycles
Magnetrons: 25 KW Peak	Pulse Repetition rate: 800 per second

Antenna: ±0.7 degrees at half power point in horizontal

± 3 degrees at half power point in vertical

56. The unit does not have a stabilization platform, and none is planned. One was originally planned but was dropped as too expensive and not necessary. The unit will be used on small Baltic fishing vessels, such as loggers, (approximately 35 meters long) and cutters (approximately 12 meters long). An anti-clutter device is planned but not yet developed. MANTHEY and DOBESCH were to begin the development of this device in December 1953. DOBESCH was the impulse expert on the project. The principle to be tried was to differentiate the main pulse and apply it as an attenuator on the IF gain. If this was not satisfactory, more [redacted] literature would be read and a more involved plan tried. [redacted] not read [redacted] literature, as we preferred to read the original [redacted] work. No airborne version of this radar was ever considered. 50X1-HUM

57. The antenna was a truncated parabola of revolution 1.2 meters by 50 cm. and fed with a horn and waveguide. The dish was more heavily illuminated in the center in both planes so as to minimize side lobes, according to a design by SCHUETTLOEFFEL.

58. The antenna was a one piece casting of nonferrous light metal and the mast was also one piece and nonferrous. This was to maintain stability in storms. The problems of icing had not been solved. This will be a difficult problem, since the fishing boats go as far north as the BarentsSea.

59. All the test equipment for the 3 cm. Kollisionschutz radar was built in RFT Koepenick. It consisted of:

(a) Standing wave meter using a slotted waveguide

(b) Attenuators

(c) Rotatable couplings

(d) Power measurement for small powers

(e) Pulse modulated signal generator with calibrated output

(f) Antenna pattern measuring equipment

(g) Echo boxes (wavemeters)

(h) Flexible waveguides (made by a cable plant at Vacha in the Rhoen Mountains)

(i) Waveguide couplers

60. A harbor radar under development at Funkwerk Dresden was only briefly discussed. This is a secret project and [redacted] it 50X1-HUM
is for coastal defense on order by BfW. It is 12 cm. radar with approximately 1° beamwidth. It used dielectric antenna (details unknown) with concentric coax cable feed. [redacted] it uses a 50X1-HUM
triode oscillator since no 10 cm. magnetrons have been built at HF Werk since 1945 and 1946. Ten cm. magnetrons are to be developed again in 1954 for the air search radar project of BfW. (See para. 21 7. [redacted] knew of this Dresden radar until the end of 50X1-HUM
1953. [redacted] BfW kept the secret pretty well, as Dresden claims to be nearly finished with a laboratory model. Funkwerk Dresden asked RFT Koepenick to put a sector sweep on the indicator for the Kollisionschutz radar and adopt it for their use. The Working Group suggested cancelling this project, on the basis that the 3 cm. radar of Koepenick could do anything that this radar would do. Funkwerk claimed they were about finished with the job, and BfW claimed that German engineers needed experience in 12 cm. radars. The project was allowed by the Working Group.

Decca Navigation Project

61. The Decca Navigation system was approved and interest was expressed by BfW, but it remained a ZAFT project. HUETTMAN began this project with a proposal in 1951 for work in 1952. He did not get started until September 1952. It was his idea to build a hyperbolic system different from Decca, since Decca is a patented system. Should a ship come into a foreign port with a Decca equipment aboard, the ship would be liable to seizure. HUETTMAN thought he could combine the American VOA system with Decca in such a way as to avoid the patents. The idea is completely dead now. I do not think it was a practical idea. The DDR is too small a country to set up its own system. HUETTMAN dropped the project in late 1952. He had assigned Ing. FEGERT to the project in August 1952, but FEGERT left Koepenick in December 1952 and went to HV Funk. He was not a very good engineer. HUETTMAN decided that Decca must be used, but he did not have anyone to put on the project. [redacted] It was 50X1-HUM
decided that we needed the background of having worked with the Decca system if we were ever going to reconsider searching for a new system.

62. It was proposed to HV Funk verbally that the Decca system be built in complete conformity with Norwegian, Danish, West German and British equipment, and that all ships would be instructed to throw the Decca equipment overboard if they had to enter a [redacted] port. They agreed without question. No study of navi- 50X1-HUM
gation systems was ever made or assigned. The engineers at Koepenick considered a study of navigation systems in late 1952 before they decided to adopt the Decca system, but never carried it out. It was a self-generated idea within my department with no outside suggestion. Such a project would not have been likely to come to Koepenick and we would probably have refused it had it come. [redacted] always free to refuse a project at Koepenick. 50X1-HUM

63. HINTZE was project engineer in 1953 for the Decca Navigation project. None [redacted] knew what the Western specifications were. [redacted] 50X1-HUM insufficient literature. In the meantime [redacted] found the signals on an ordinary communications receiver, put the audio on an oscillograph, and analyzed the traces. [redacted] checked both West German and 50X1-HUM Danish signals. [redacted] measured the frequencies, the frequency shift of the master station, and the time sequences of the master and slaves as well as other data. Soon after, two French articles from the library of the University of Munich arrived and we found that our values were within 10 per cent of those in the articles. The oscillographs showed that the master pulses were of varying length, although this is not important technically. [redacted] 50X1-HUM built the apparatus from our measurements, but it was reassuring to get the magazine's. The biggest problem in our measurements was the lack of selectivity in the communications receiver.

64. By March 1953, it was decided to follow the [redacted] plan exactly. 50X1-HUM [redacted] no knowledge of any of the Soviet navigation systems. All of these above events were related to BfW; no objection was ever raised, and not much interest was shown [redacted] By De- 50X1-HUM cember 1953, HINTZE had a skeleton equipment built up in the laboratory and was constructing a signal generator that would simulate Decca signals so that laboratory tests could be run. Parts, such as quartz filters, etc., for the first receiver, had been ordered.

65. The Entwicklung und Fertigung Electrische Messinstrumente (EFEM) had sub-contracted from Koepenick the construction of the indicator. Prof. STANEK of EFEM took this job in November 1953. The development model being built by HINTZE was much too large to install on boats. EFEM made small electrical instruments and they should be able to build a good, small indicator.

66. Other projects considered by Dr. LANGE's working group were: 100-200 meter goniometer direction finder; a kw visual direction finder (KW Sicht-Peile) with cathode ray tube presentation; Adcock direction finder (withdrawn by BfW); and a long wave navigation system for ships (copy of a-u system used in America for airlanes). The Working Group wondered why the Echolot projects had not been routed to it. Someone suggested that it was probably some place in a medical group with other ultrasonic devices.

67. A radar project not discussed by the working group has been developed at Funkwerk Leipzig. [redacted] This has been a well-guarded 50X1-HUM secret development. [redacted] this is a height finder, since stabilization has been requested. BfW spoke of 50 nautical miles without defining target size. Two units have been delivered to the Seepolizei at Rostock, and tests have been run in the Baltic Sea with Leipzig Funkwerk personnel cooperating. In the early fall

of 1953 Dr. LANGE [redacted] the tests and added that he was satisfied with them but gave me no details. Dr. LANGE with Dresden and Leipzig engineers visited RFT Koepenick in November and seemed to think that RFT Koepenick had better measuring equipment for radar development than they had. [redacted] was very proud of the centimeter work done at Koepenick and gave much credit to SCHUETTLOEFFEL while getting inner satisfaction for his part in the measuring apparatus. The latter had built measuring apparatus for NII 160 while in the USSR, and could use that experience as background for the building of similar test equipment for Koepenick/. 50X1-HUM 50X1-HUM

Transmission Technique Group

68. Dr. MEGLA's working group consisted of the following members: myself - Koepenick RFT; Dr. GERHARDT - Zentral-Institut fuer Funktechnik (a new institute about 3 months old located in Adlershof by the television station. Formed by HV Funk as an institute for basic questions - future uncertain. Has parallel in West Germany in Radio Section of Zentrale Amt, Deutsche Post Laboratorium); and representatives from HF Werk, Funkwerk Dresden, and HV Funk ([redacted] HV Funk had a member on all electronic groups.) Dr. MEGLA received an honorary degree from Dresden at the end of 1953. [redacted] he is of the same political opinion [redacted] Some have said he is an SSD man. He is ambitious and may go to some extremes to keep his job. 50X1-HUM 50X1-HUM

69. The working group held four meetings. The first was in Radeberg the last of August or the first of September 1953. The purpose of this meeting was to standardize coaxial connectors and the impedance of coaxial cables. It was decided that all DDR projects could standardize on 60 ohm cables, with the exception of SAG orders where the Soviets usually specified 70 ohm (Soviet standards are 70 and 50 ohms). Coaxial connectors were set at: (a) 10 mm. (inside diameter of outside conductor) by 3 mm. (outside diameter of inside conductor); (b) 16 mm. by 5 mm. or (c) 25 mm. by 8 mm. (the last is approximate). For pulse cables it was agreed to use 16 mm. by 3 mm. which uses sizes included above in (a) and (b).

70. The second meeting was held in AMB chambers during the week of 16-25 September 1953. Approximately 15 projects were considered. The third meeting was at Funkwerk Dresden in November 1953 and the fourth at Funkwerk Leipzig in December 1953. The following proposals were discussed at these three meetings.

Communication relay equipment on a wavelength of 15 cm. This work was to be carried out at Sachsenwerk. The equipment was to have 60 and 120 channels (two models) and be mobile. The MPF would use the equipment. A higher frequency may be planned for this as MEGLA hinted

that they might go as high as 10 cm. The DDR metal ceramic tubes of the lighthouse type work pretty well up to 10 cm. but fall off fast to no output at 8 cm. These tubes are giving some trouble now due to absorbed gases in the ceramic. Good steatite (Speckstein) is not available in the DDR but is plentiful [redacted] 50X1-HUM

Television relay equipment.
This was to be decimeter (around 20 cm. wavelength) using the metal ceramic tubes. Sachsenwerk will do this work for MPF and Rundfunk Committee. Its power will be about 10-watts and it will use frquency modulation. At present, a chain is operating from Berlin studios to Berlin transmitter to Leipzig to Dresden with a 3 KW (output power, not effective radiated power) transmitter & each location with 10 KW stages to be added later. Two 10 KW stages are being developed, one at Koepenick and one at Radeberg. One of these is for approximately 50 mc. and the other for approximately 100 mc., but [redacted] which unit is made at Koepenick. A second Berlin television transmitter will be put on a high tower at Muggelsberg. This will also be a 10 KW transmitter. 50X1-HUM

Passive relay equipment (a reflector).
This is for multi-channel relay equipment. This mirror is a plate very slightly curved in both dimensions. It is about 10 sq. meters in area. MEGLA implied that they might go to 10 cm. in this development to keep down the size of the dish and this reflector. The reflector will be mounted on top of a tower to divert the decimeter beam. The project will be carried out at Sachsenwerk. A second project planned for the use of this reflector was as an antenna with a dish at the base of a tower.

Pulse code modulation.
This was a research project proposed for HF Werk. The big problem was to develop a codifying tube. Equipment will be built at HF Werk in order to test the tubes designed. This will probably become a Sachsenwerk development in 1955.

Pulse position modulation.
This project, a decimeter development, was at Sachsenwerk and had already been worked on for three quarters of a year. [redacted] it will be finished in 1954. MPF is the customer. 50X1-HUM

UKW communication equipment for automobiles.
For the Polizei. This equipment is to have a very small output (2 or 3 watt) with a second model with 10 watt output. The project is being conducted at Funkwerk Dresden.

Railroad device.
This device was to indicate to a central railway station whether the last car of a train was still attached. The project was assigned to Sachsenwerk. Ultrasonic, infrared and high frequency methods were discussed. The aim of the project was to determine the best method.

UKW equipment.
This equipment was for train-to-train, train-to-switchyard, station-to-train and passenger-to-civilian telephone operation. This work was being carried out by Funkwerk, Dresden as three projects. A carrier frequency system with directional antennas along the track was utilized to pick up the signal which then went by wire to a central point.

Dispatcher equipment.
This project called for the development of UKW equipment to contact mining teams (from a central point) in the brown coal industry. The project was assigned to Funkwerk, Dresden.

UKW selective calling system.
This was to make possible motor vehicle calling from a central point. This project was for the Polizei and was assigned to Funkwerk, Dresden.

71. Sachsenwerk also builds 12-channel mobile equipment for the USSR on a SAG contract. [redacted] their production, but [redacted] there were twenty in their testing room [redacted] the plant. The plant has a good foundry, an electro-plating bath, a very large paint shop, many presses and a pattern shop. It was a surprise to me that they make their own castings. They are very well equipped, but then they have been an SAG company. 50X1-HUM

72. Sachsenwerk is also making two new types of simpler and cheaper television sets. These sets sell retail for about 1,000 DM East and have approximately 9 inch tubes. Production was started in the fall of 1953. These new models have removable high frequency circuits. Only minature tubes were to have been used, but since insufficient miniature tubes could be produced, both regular and miniature are mixed. Sachsenwerk still makes the old Leningrad for the USSR. The Leningrad was not designed by Germans; the complete design was furnished by the USSR.

DECIMETER TUBE GROUP

73. [redacted] Dr. LADURNA's decimeter tube working group. It met once [redacted] went to Gross-Raddchen on the day of the meeting with Dr. ECKHART [redacted] 50X1-HUM

[redacted] The working group is concerned primarily with T-R tubes, pencil tubes, lighthouse metal ceramic tubes (Scheibetriode), magnetrons, klystrons and travelling wave tube development (Wanderwellenröhren). [redacted] 50X1-HUM
the travelling wave tube development. Three klystrons of 1.25 cm., 3 cm. and 10 cm. are under development. [redacted] 50X1-HUM
[redacted] the 10 cm. may be for the Dresden radar project. The 3 cm. and 10 cm. are being developed at HF Werk. The 1.25 cm. klystron is to be developed at Erfurt Röhrenwerk. Erfurt engineers asked many questions about [redacted] and said 50X1-HUM
they were starting to build 1.25 cm. test equipment in order to develop a 1.25 cm. klystron. [redacted] what the 1.25 cm. 50X1-HUM

klystron is to be used for.

74. Large cathode ray tubes are developed in HF Werk and smaller ones at Erfurt. Most large transmitting tubes are developed at Erfurt. The small tube development is chiefly at HF Werk.

LEADING EAST GERMAN ELECTRONIC SPECIALISTS

75. [redacted] not well qualified to list outstanding people in electronics, [redacted] not well acquainted with other groups outside Koepenick. However [redacted] the following are the most likely to contribute to the future DDR electronic program: 50X1-HUM

Dr. BAUER, HF Werke, quartz crystal expert.

Dipl. Ing. DOBESCH, Koepenick, specialist on impulse technique.

Dr. ECKHARDT, Institute fuer Festkoerperforschung, He is a physicist and an SED member; he is much like FRUEHAUF in that, although he is an SED member, he does not always agree with the SED. He is also "big" enough to defy them.

Dr. FALTER, Dralowid, specialist on detectors and semi-conductors.

Prof. FRUEHAUF, Technische Hochschule, Dresden, is the outstanding leader in electronic education. He goes along with the SED most of the time, but he is critical of SED acts and people when he thinks they are not good. He is eminent enough to be able to say what he thinks.

Prof. HACKENBERG, director of Heinrich Hertz Institute, is a specialist on propagation and ionospheric measurements.

Dr. KLANG, HF Werke, He is a specialist on cathode ray tubes, dark trace tubes, and perhaps iconoscopes.

Dr. LADURNA, HF Werke, He is the best tube man in the DDR.

Dipl. Ing. LAMBUCHT, Koepenick, specialist on gyro-compasses.

Herr LIEBIG. He was a promising young man in my receiver department at Koepenick.

Herr MANTHEY, Koepenick, is a specialist on radar.

Dr. MEGLA, Sachsenwerk Radeberg, is not very good technically. He tries to pose as a highly competent technical specialist. He is said to have had LOREK of Sachsenwerk do the mathematical work for his book.

Frau MUELLER-TURLEY, HF Werke, She is a specialist in phosphorescent materials.

Dr. NIEDHARDT, HF Werke, who tried to make a career of the SED, created opposition from both the SED and the engineers.

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Dr. PINNOW, Dralowid, is a young man not well known by me. He is credited with the work on germanium purification at Dralowid.

Dr. REHBOCK, HF Werke, is a specialist on UKW techniques. He is by nature a receiver man but is also good at transmitters.

Dr. RICHTER, HF Werke. Specialist on tube material problems and the welding of tube parts.

Prof. ROMPE, who [redacted] works at Berlin-Buch, is a theoretical physicist. He is more capable than STANEK but otherwise much like him in that he is a career SED man with good publicity talent. He has been accused of having selected the German scientists to go to the USSR in 1946, [redacted]

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Dr. SCHUETTLOEFFEL, Koepenick. Specialist on antennas and propagation.

Prof. STANEK, director of EFEM. A pro-Soviet, he is a career man in the SED. He is not outstanding technically, but he is a good publicity agent and is in high favor with the SED leaders.

Dipl. Ing. WAGNER, Koepenick. Specialist on control mechanisms for machinery.

Dr. WEBER, Koepenick. Specialist in measuring equipment such as oscilloscopes and ultra-schall.

76. [redacted] SCHUETTLOEFFEL, DOBESCH or MANTHEY to be selected as director of TEK. However, these men might reject an offer since many capable men in the East Zone are reluctant to rise too high unless they are also party members.

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LINDENBERG RADAR PROJECT

77. The ground radar project of RFT Koepenick should not be confused with the radar project of HUETTMAN at the Lindenberg Meteorological and Weather station. HUETTMAN, who worked on Kollisionschutz-Gerate, left Koepenick in July 1953 and went to Lindenberg as an engineer under DUBOIS, who is chief engineer at Lindenberg. HUETTMAN had a good laboratory [redacted] He has five or six people and a good workshop. He plans to develop a weather-balloon tracking radar along the lines of the Kollisionschutz radar he worked on in Koepenick. This will consist of assembling the parts by hand for one unit without a formal project. [redacted] expect him to take until 1956 to complete the unit. He will not be short of funds but will have to do much work and hunting for parts. [redacted] he has over-estimated the effectiveness of the corner reflector that the balloons can carry. He plans to get 200 km. range from the Kollisionschutz magnetron. He is capable and will very likely succeed.

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78. HUETTMAN also considers a 10 cm. transmitter for radiosonde purposes. He plans to use the American pencil tube that has been found in the DDR as a result of [redacted] weather balloons blowing over into the DDR. It may be interesting that at first people turned these over to the police because a note accompanied each radiosonde stating that this article, if found, should be returned to a designated place. Later, when the [redacted] discontinued use of this note, no more units were turned in to the police since the people did not know what they were. A project to develop this pencil tube has been proposed for HF Werke for 1954. [redacted] no plan to develop control equipment for rockets for high altitude research. 50X1-HUM 50X1-HUM 50X1-HUM

WTB (Wissenschaftlich-Technisches Buero)

79. WTB is the largest electrical development plant in SAG (as large as RFT Koepenick and better equipped) and had a budget of perhaps 20,000,000 DM East. About half of this amount was for electrical machines and the other half for electronic devices. Some of the projects worked on in 1953 were electron microscopes, ionosphere measuring equipment, cloud height measuring equipment, supersonic measuring devices, artificial horizons, perhaps for automatic pilots, and electronically controlled automatic equipment.

ELECTRONIC EXPORTS TO OTHER MEMBERS OF THE SOVIET BLOC

80. WTZ (Wissenschaftlich-Technische Zentrale) a department in ZAFT, arranged for visits by representatives from other Soviet Bloc states. A Czech delegation visited Koepenick early in 1953. They were interested in 3 cm. measuring equipment, UKW slotted line, variable condensers and 100-1000 meter goniometers.

81. A Hungarian group visited in October or November 1953. They were interested in electronic erosion. With a probe using low voltage (30 or 40 volts) and high current (10 amperes or so) they were drilling holes in and shaping metal. They claimed that they could drill smooth holes .06 millimeter in diameter. [redacted] heard of this process in 1951 at NII-160 where the Soviets were working on the process. It is possible to drill spiral holes by this method. The Hungarians wanted to know how to produce 1000 ampere low voltage (below 300 volts) pulses. [redacted] they ask at HF Werke to see the hydrogen thyratrons. [redacted] none of the names of either group. [redacted] has an excellent memory on generalities but does not recall details well. He is particularly poor at remembering names. 50X1-HUM 50X1-HUM 50X1-HUM

82. The Minister for Post and Communications from China visited the DDR in July and August 1953 [redacted] not see him but MEGLA showed him through Sachsenwerk. He suggested that MEGLA should go to China. Many offers were also made to other DDR technical people but, according to MEGLA none was interested. 50X1-HUM

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COMPETENCE OF SOVIET PERSONNEL

83. the organization and operation of the DDR research and development program as outlined above is the same plan as used in the USSR. In the USSR the administrative people have a much higher technical competence than in the DDR. (a) SAG received good, well-written, technical contracts, (b) while at NII 160, a proposal for a DDR development which came back for review well-written and with good technical suggestions, and (c) while at NII 160, a conference (Dr. STEIMEL attended also) on the measurement of very small voltages. The Soviet administrative people spoke with technical competence and made worthwhile contributions to the discussion. This may be the result of a longer period of adjustment in the USSR. Also, Soviet plants have in most cases developed their own components production facilities. Because of the size of the institutes and the great distances between institutes, this is practical for them but not for the DDR. Nevertheless, it may be necessary to adopt this system in the DDR if the DDR continues to follow the Soviet plan, since the delays included in setting up a new project in order to get a part to finish another project are unreasonable. Some DDR engineers are solving this problem on a personal favor reciprocating basis, working outside the organization when they need a special part, but not a permanent solution.

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